Appendix B

Variation of State FSP Administrative Costs per FSP Household and Potential for Modeling

Appendix B: Variation of State FSP Administrative Costs per FSP Household and Potential for Modeling

This appendix provides supplementary information on the variability of State FSP administrative costs, focusing on the cost per FSP household. In addition, the appendix discusses the difficulty of conducting econometric analysis of FSP administrative costs.

Variation of State FSP Administrative Costs per FSP Household

Table B-1 shows the coefficient of variation (CV) for the total administrative cost per FSP household and each component by year, indicating the relative variability of costs among States in each year. The mean CV for the components ranged from 0.46 for certification to 2.2 for ADP development. For most components, the CV did not show a clear trend over time, but the CV for issuance declined substantially while the CV for unspecified other costs increased. The CV for FSNE increased from 1994 to 1999, as FSNE expanded to more States and grew within participating States, then dropped in 2000-2001.

Table B-1

Coefficient of Variation of Annual Cost per Household for Total FSP Administrative Cost for Total and Components (in 2001 Dollars), 1989-2001

Fiscal Year	Total Cost	Cert	Issuance	Fraud	ADP op	ADP dev	E&T	Misc.	FSNE[a]	Unsp Oth
1989	0.42	0.47	1.13	1.12	1.33	1.95	0.97	0.68	.	1.07
1990	0.45	0.51	1.12	1.05	1.37	2.29	1.05	0.63	.	1.06
1991	0.48	0.53	1.04	0.99	1.51	2.50	0.70	0.62	.	1.10
1992	0.47	0.52	1.22	0.94	1.21	2.16	0.74	0.62	.	1.16
1993	0.44	0.48	1.08	0.97	1.10	1.94	0.86	0.77	.	1.12
1994	0.40	0.43	0.97	0.97	1.23	1.95	0.97	0.66	0.31	1.32
1995	0.41	0.42	0.96	0.98	1.04	2.26	1.55	0.66	0.42	1.43
1996	0.40	0.42	0.98	0.95	1.01	1.97	1.70	0.64	0.61	1.34
1997	0.38	0.48	0.92	0.88	0.90	2.06	1.17	0.71	0.71	1.42
1998	0.33	0.40	0.87	0.90	0.89	2.75	1.23	0.69	0.83	1.37
1999	0.32	0.42	0.76	0.87	0.87	2.36	1.22	0.66	0.96	1.36
2000	0.34	0.44	0.61	0.98	0.99	2.36	1.24	0.64	0.92	1.36
2001	0.36	0.47	0.50	1.07	0.91	2.11	1.18	0.66	0.88	1.40
Mean	0.40	0.46	0.94	0.97	1.10	2.20	1.12	0.67	0.71	1.27

[a] Mean for FSNE is for 1994-2001.

Figures B-1 through B-10 illustrate the variability of the each measure of administrative cost per FSP household, including the total and each category, among States in each year from 1989-2001. For each year, these "box and whisker" charts represent the range of costs from the 5th percentile to the 95th percentile (encompassing 90 percent of States), the range from the 25th to 75th percentile (known as the interquartile range), and the median. The values below the 5th percentile and above the 95th percentile are not shown, in order to focus on the variation among States without extreme values.

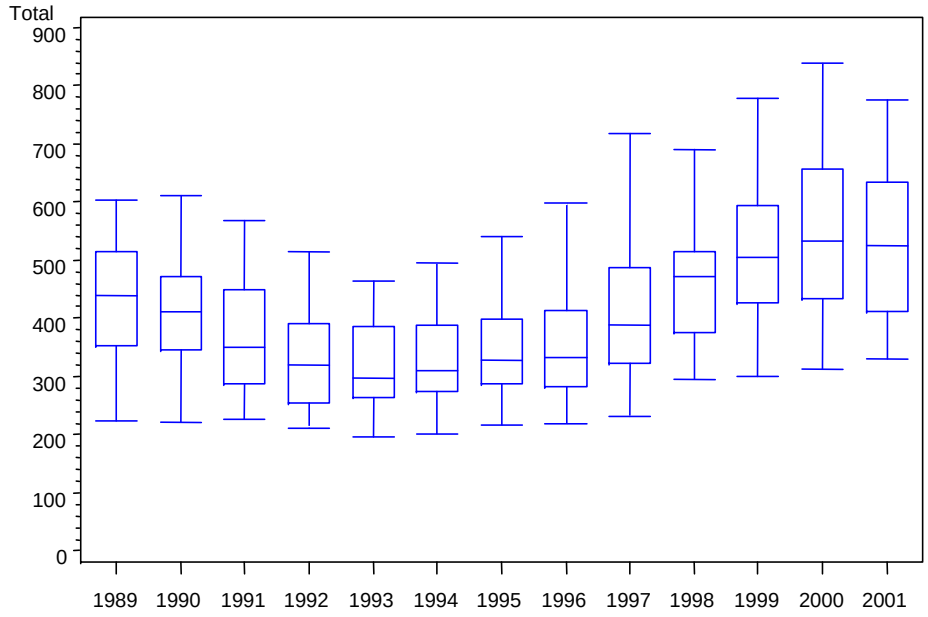
Two common patterns emerged from these charts:

- Most categories of costs had substantially skewed distributions, with much larger ranges from the median (the dividing line in the box) to the 95th percentile than from the median to the 5th percentile. Unspecified other, issuance, fraud control, ADP development, miscellaneous, E&T, and FSNE had notably skewed costs. Thus, most of the variation in these costs was in States with high costs (above the median).
- The interquartile range (the box in the charts) varied in size from year to year in each chart, with later years (after 1996) tending to have a wider interquartile range.

We produced alternate versions of figures B-1 through B-10 that included the outlier values. The range below the 5th percentile was generally quite small, but the range above the 95th percentile was sometimes very large. Alaska contributed many of the extremely high values.

Figure B-1

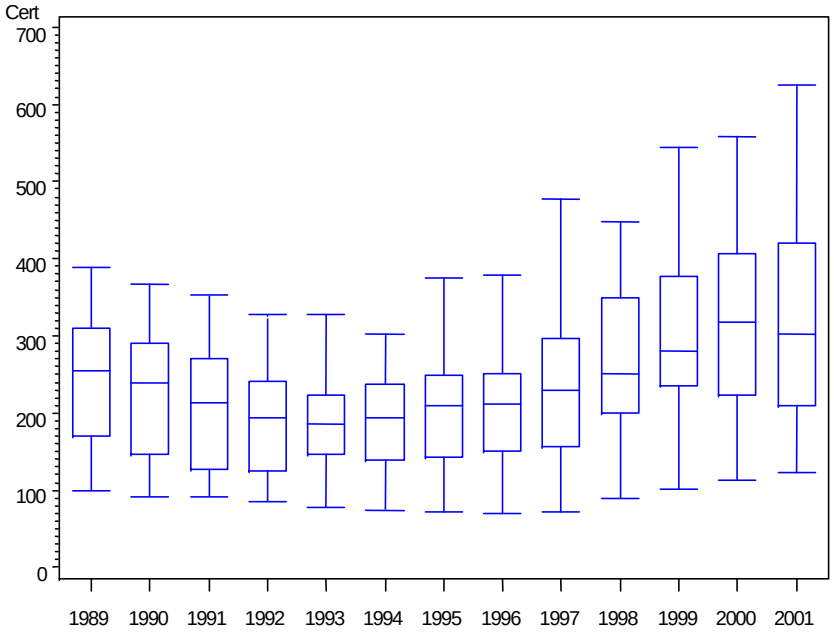
Distribution of State Total Cost per FSP Household in 2001 Dollars by Year, 1989-2001



Note: For each year, the vertical box represents the range from the 25th percentile to the 75th percentile. The line dividing the box is the median. The lines extending from the box indicate the range from the 5th percentile to the 95th percentile.

Figure B-2

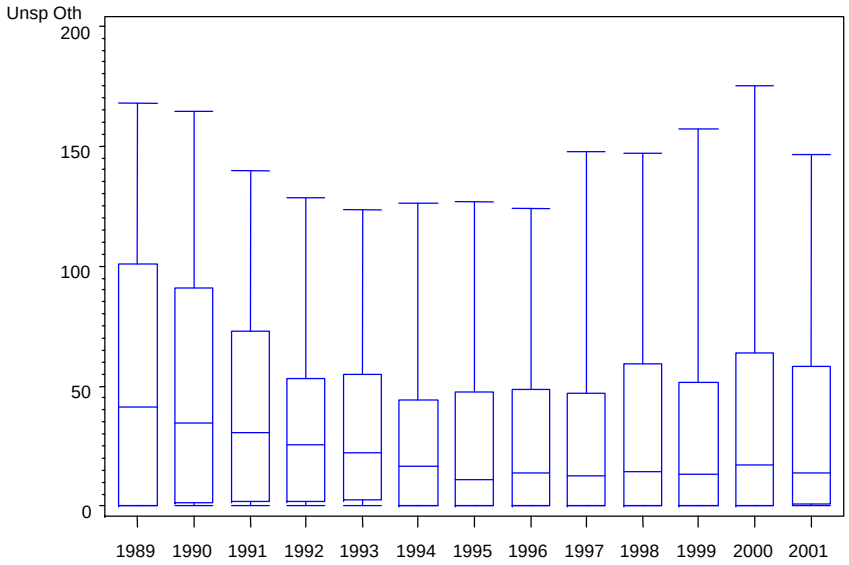
Distribution of State Certification Cost per FSP Household in 2001 Dollars by Year, 1989-2001



Note: For each year, the vertical box represents the range from the 25th percentile to the 75th percentile. The line dividing the box is the median. The lines extending from the box indicate the range from the 5th percentile to the 95th percentile.

Figure B-3

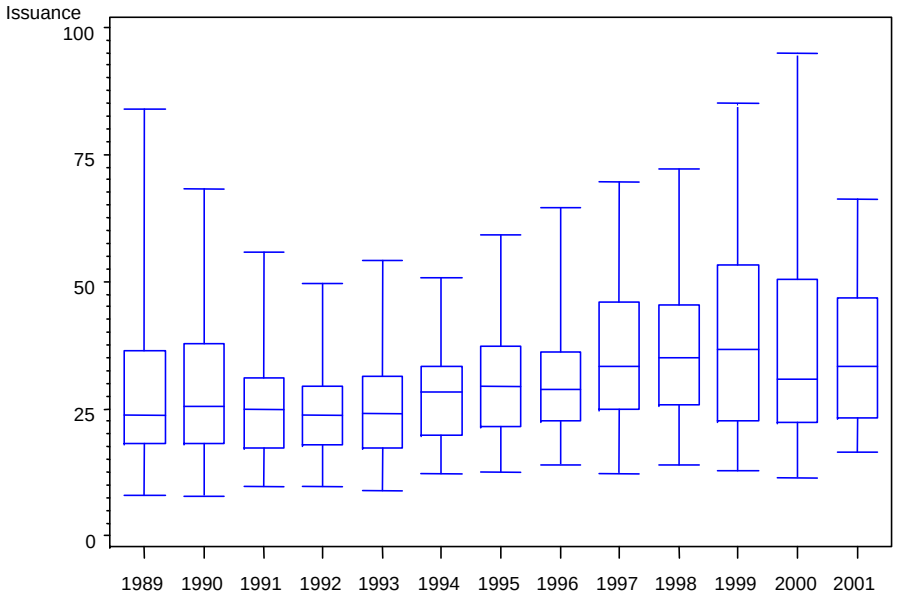
Distribution of State Unspecified Other Cost per FSP Household in 2001 Dollars by Year, 1989-2001



Note: For each year, the vertical box represents the range from the 25th percentile to the 75th percentile. The line dividing the box is the median. The lines extending from the box indicate the range from the 5th percentile to the 95th percentile.

Figure B-4

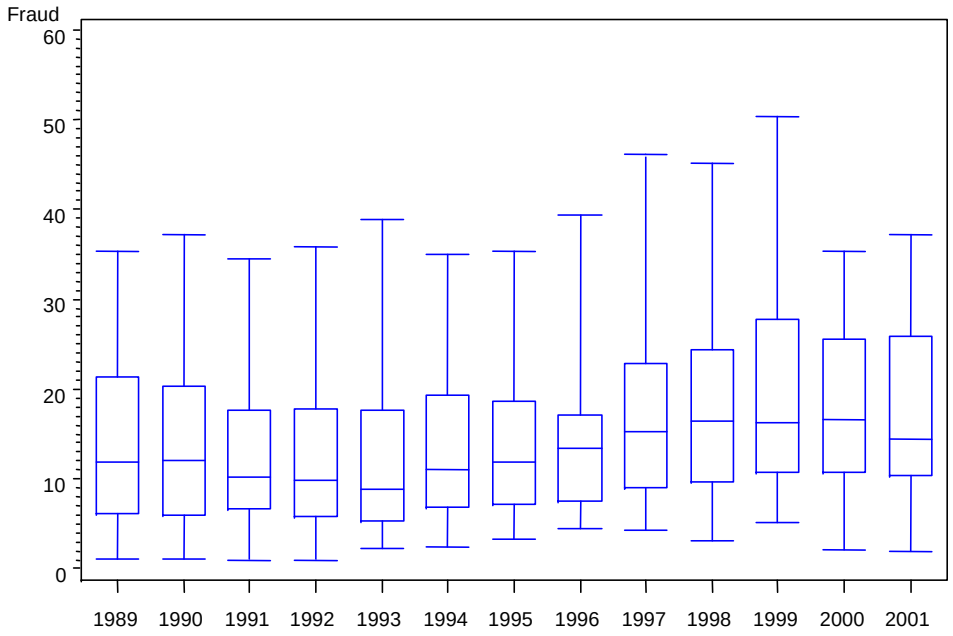
Distribution of State Issuance Cost per FSP Household in 2001 Dollars by Year, 1989-2001



Note: For each year, the vertical box represents the range from the 25th percentile to the 75th percentile. The line dividing the box is the median. The lines extending from the box indicate the range from the 5th percentile to the 95th percentile.

Figure B-5

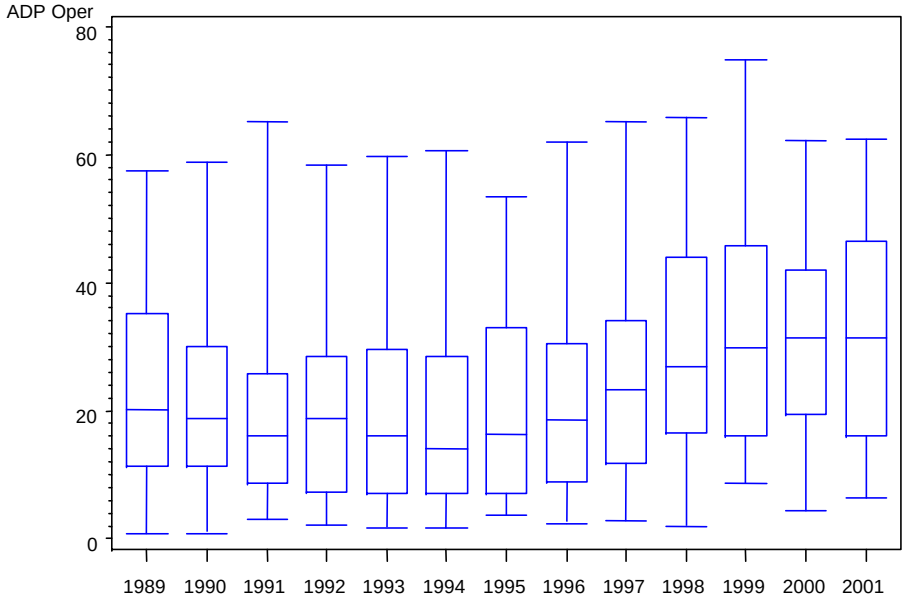
Distribution of State Fraud Control Cost per FSP Household in 2001 Dollars by Year, 1989-2001



Note: For each year, the vertical box represents the range from the 25th percentile to the 75th percentile. The line dividing the box is the median. The lines extending from the box indicate the range from the 5th percentile to the 95th percentile.

Figure B-6

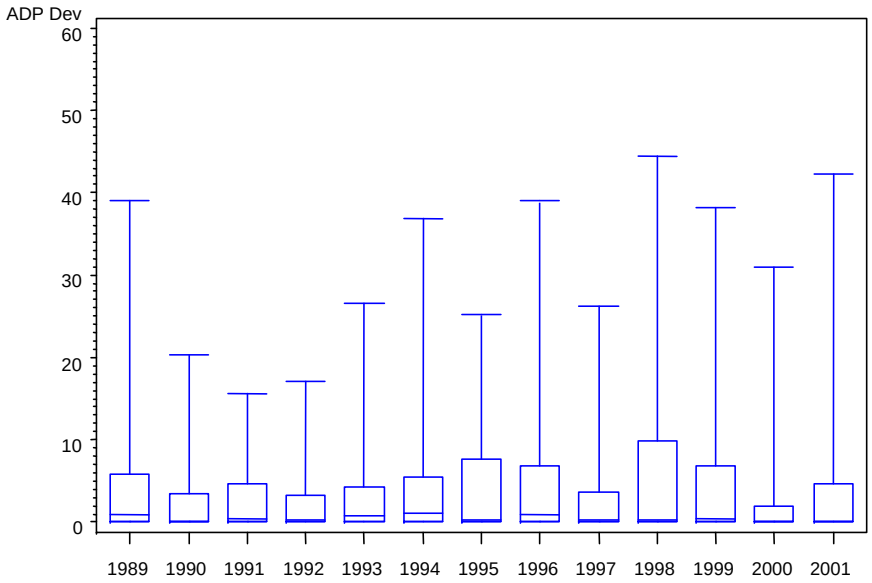
Distribution of State ADP Operations Cost per FSP Household in 2001 Dollars by Year, 1989-2001



Note: For each year, the vertical box represents the range from the 25th percentile to the 75th percentile. The line dividing the box is the median. The lines extending from the box indicate the range from the 5th percentile to the 95th percentile.

Figure B-7

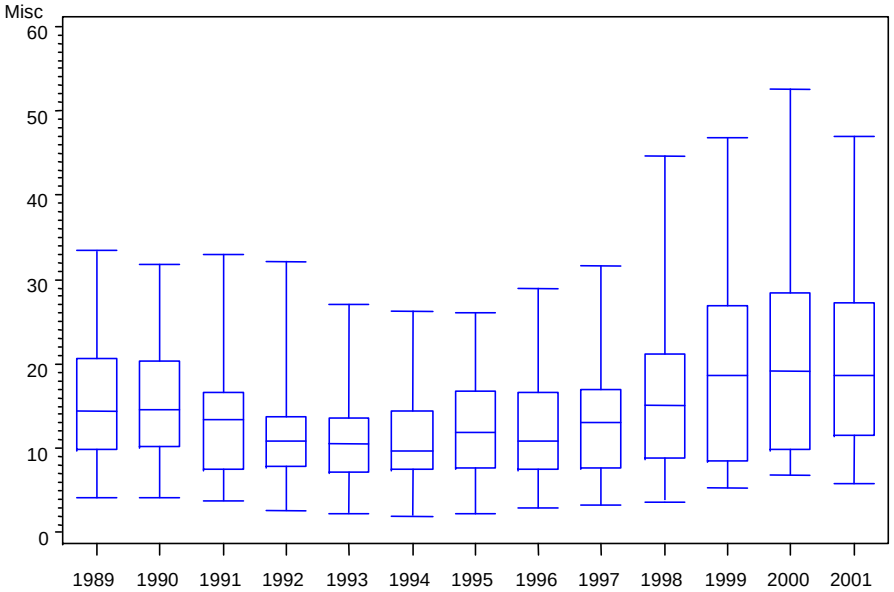
Distribution of State ADP Development Cost per FSP Household in 2001 Dollars by Year, 1989-2001



Note: For each year, the vertical box represents the range from the 25th percentile to the 75th percentile. The line dividing the box is the median. The lines extending from the box indicate the range from the 5th percentile to the 95th percentile.

Figure B-8

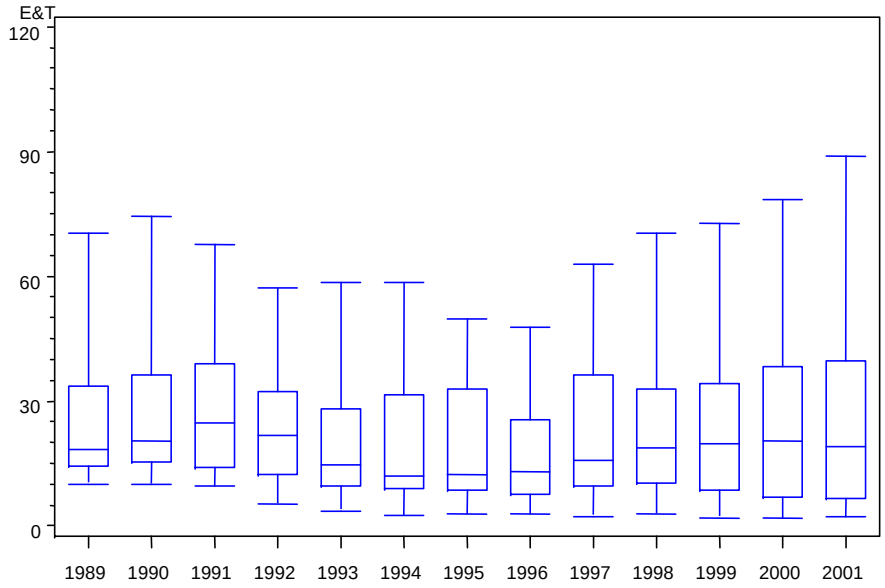
Distribution of State Miscellaneous Cost per FSP Household in 2001 Dollars by Year, 1989-2001



Note: For each year, the vertical box represents the range from the 25th percentile to the 75th percentile. The line dividing the box is the median. The lines extending from the box indicate the range from the 5th percentile to the 95th percentile.

Figure B-9

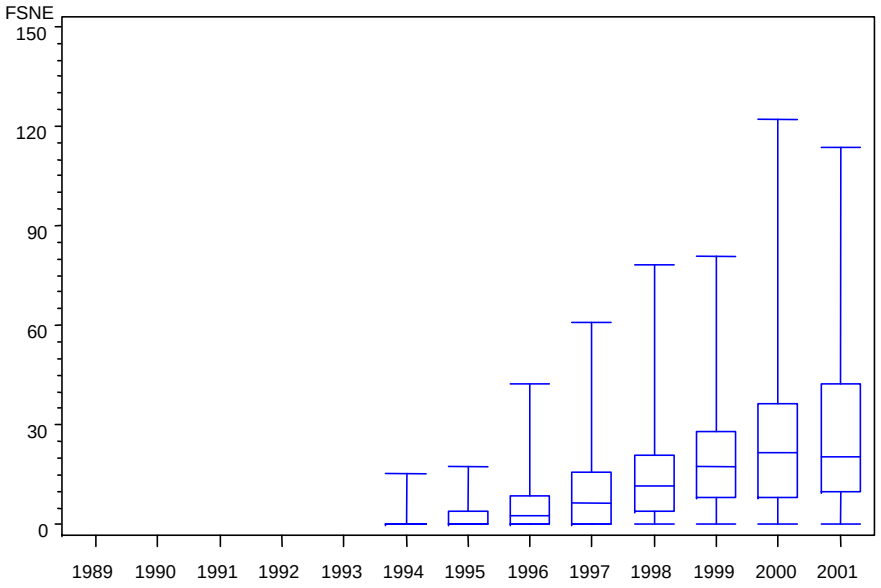
Distribution of State E&T Cost per FSP Household in 2001 Dollars by Year, 1989-2001



Note: For each year, the vertical box represents the range from the 25th percentile to the 75th percentile. The line dividing the box is the median. The lines extending from the box indicate the range from the 5th percentile to the 95th percentile.

Figure B-10

Distribution of State FSNE Cost per FSP Household in 2001 Dollars by Year, 1989-2001



Note: For each year, the vertical box represents the range from the 25th percentile to the 75th percentile. The line dividing the box is the median. The lines extending from the box indicate the range from the 5th percentile to the 95th percentile.

Correlation of FSP Administrative Costs to State Caseload Characteristics

At the State level, the total administrative cost per FSP household had a highly significant negative correlation with the size of the FSP caseload (average number of participating households), as indicated in table B-2. Thus, larger States tended to have lower total costs per FSP household, a result that is consistent with the national trends over time (falling cost per FSP household with rising participation and vice versa. There was a negative correlation between State FSP caseload and certification cost per FSP household, but it was not significant, despite the apparent relationship in the national trends. The issuance cost was negatively correlated with FSP caseload, and this correlation was highly significant.

Table B-2 also shows a significant positive correlation between the percent of FSP households with earnings and the total administrative cost per FSP household; this State characteristic was also positively correlated at the 5 percent significance level with certification costs and issuance costs. [1]

Table B-2

Correlation of Selected Components of FSP Administrative Costs and Program Environment/Operations Variables

All States	Total Cost	Cert	Unsp Oth	Issuance
FSP Caseload	-0.127***	-0.035	0.045	-0.150***
% FSP Households with AFDC/TANF	0.079**	-0.620	0.150***	0.094***
% FSP Households with Earnings	0.090**	0.087**	-0.039	0.089**
Case Error Rate	0.054	0.062	-0.067*	-0.007
Case Overpayment Rate	0.033	0.030	-0.033	-0.016
Excluding Alaska	**Total Cost**	**Cert**	**Unsp Oth**	**Issuance**
FSP Caseload	-0.078**	0.022	0.033	-0.123***
% FSP Households with AFDC/TANF	-0.006	-0.104**	0.172***	-0.042
% FSP Households with Earnings	0.077**	0.068*	-0.035	0.137***
Case Error Rate	0.028	0.022	-0.063*	-0.032
Case Overpayment Rate	-0.005	-0.018	-0.029	0.001

*** Denotes significant correlation at 1% level ** 5% level * 10% level

[1] With the exception of the total FSP caseload, the variables correlated with cost measures in table B-2 were computed by using the quality control (QC) sample data. .

An explanation of this correlation is that States with higher employment rates among FSP participants also had higher wage levels for FSP administrative personnel. This association, which would be a natural result of a tight labor market, would provide a plausible explanation for the significant correlation between issuance costs and the percent of FSP households with earnings. There is no reason to expect a direct relationship between these variables, but high pay rates could drive up both the cost of benefit issuance and the rate of employment among FSP participants. (The role of worker pay rates was explored in the analysis, as discussed later in this section.)

The correlation analysis indicates a relationship of FSP administrative costs to the proportion of FSP households receiving AFDC or TANF, but the results are counterintuitive. Costs are shared when FSP households receive cash assistance, so one would expect a negative relationship between the cost per FSP household and the proportion of FSP households receiving cash assistance. Table B-2 shows, however, that this correlation was positive and significant for total costs, unspecified other, and issuance.

Further analysis indicated that the Alaska data had a large influence on these correlations. (We investigated the potential influence of Alaska because of its very high total and certification costs per FSP household.) When Alaska was excluded from the analysis, the correlations of the percent receiving AFDC/TANF with total cost and issuance cost became negative but not significant, and the correlation with certification cost became negative and significant. The highly significant positive correlation of unspecified other cost with the percent receiving TANF persisted when Alaska was excluded. This apparently anomalous result illustrates the limitations of bivariate analysis.

To explore the possible relationship between FSP administrative costs and the accuracy of case determinations, we computed the correlation between the cost measures in table B-2 and two measures of certification accuracy: the case error rate (percent of cases with an overpayment or underpayment) and the case overpayment rate (percent of cases with an overpayment). [2] The only significant finding was the negative correlation of the unspecified other cost per FSP household with the case error rate. Subsequent multivariate analysis did, however, establish a strong relationship between certification effort and the error index.

FSP Administrative Costs and Welfare Worker Pay

We obtained data on the rate of pay for public welfare workers as a possible way of adjusting administrative costs for labor market differences. As defined by the Census Bureau, this class of workers includes workers who administer the FSP, AFDC/TANF, medical assistance, and other forms of public aid or services typically targeted to low-income populations.[3] The Census Bureau annually collects payroll data for this occupation from States and a sample of local governments. These data were used to compute the average monthly cost per full-time-equivalent worker (FTE) for 1993-1995 and 1997-2001.[4] The pay rates were converted to 2001 dollars using the same methodology as was used for the costs.

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[2] Both measures treat a case as in error if the difference between the actual benefit and the correct benefit was at least $25. In official error rates, the error threshold was $5 until 2000.

[3] See www.census.gov/govs/www/classfunc79.html for full definition and examples.

[4] Data for other years were obtained for the analysis in Chapter Five. The number of hours per month representing an FTE is defined by each State.

Table B-3 shows the States sorted by their average monthly pay rate per FTE for public welfare workers in the available years. The median of the State averages was $2,535.84 per month, and the range was from $1,696.82 per month in West Virginia to $3,634.53 per month in Rhode Island. Other States with low pay rates for public welfare workers include Missouri, Mississippi, Oklahoma, and Indiana; other States with high pay rates include Washington, Michigan, Alaska and Connecticut.

It is important to note that the public welfare pay measure is a weighted average over all types of State and local public welfare workers, so it reflects the actual labor mix employed by public welfare agencies and their specific wage-setting practices, as well as the labor market from which these workers are hired. Public welfare agencies, including FSP agencies, have some flexibility to offset high wages in the labor market by hiring less-skilled workers. In addition, the scope of the services provided by public welfare workers varies among States and over time. Thus, the average pay rate reflects a heterogeneous mix of workers and jobs.

Table B-4 provides evidence of a highly significant, positive, and not surprising correlation between public welfare pay rates and FSP administrative costs. This correlation was significant at the 5 percent level for total costs and at the 1 percent level for certification, unspecified other, and issuance costs per FSP household. Omitting Alaska increased the significance level to 1 percent for total costs but left an insignificant correlation for issuance costs. It is important to note that all States contract out most or all of their EBT issuance process, and coupon issuance was frequently contracted out. Thus, issuance costs would be expected to have a weaker relationship to public welfare pay rates than other categories of FSP administrative costs. [5]

[5] FSNE and E&T are usually contracted out by the State Food Stamp Agency to other State agencies or to private non-profit organizations. Thus, public welfare worker pay rates might have a weaker impact on these categories.

Table B-3

States Sorted by Average Monthly Public Welfare Pay Rates Per FTE Worker (in 2001 Dollars), 1993-1995, 1997-2001

State	Monthly Pay per FTE
West Virginia	1696.82
Missouri	1920.29
Mississippi	1987.69
Oklahoma	2010.71
Indiana	2030.99
North Dakota	2091.31
South Dakota	2128.54
Arkansas	2172.26
Wyoming	2183.69
Nebraska	2204.91
Florida	2216.32
Montana	2224.51
Arizona	2231.82
New Mexico	2261.28
Texas	2282.94
South Carolina	2283.47
North Carolina	2296.84
Tennessee	2312.28
Georgia	2349.28
New Hampshire	2357.88
Alabama	2380.82
Kentucky	2407.97
Louisiana	2474.00
Idaho	2507.55
Ohio	2517.32
Wisconsin	2535.84
Kansas	2558.98
Maine	2582.41
Utah	2587.86
Pennsylvania	2593.65
Maryland	2639.35
Vermont	2644.18
Delaware	2650.26
Iowa	2664.55
Virginia	2712.44
Hawaii	2764.02
Colorado	2837.34
New York	2856.25
Illinois	2891.84
Minnesota	2921.80
Oregon	2950.73
Nevada	3015.83
Massachusetts	3152.44
California	3160.27
District of Columbia	3211.63
New Jersey	3256.18

(continued)

Table B-3

States Sorted by Average Monthly Public Welfare Pay Rates Per FTE Worker (in 2001 Dollars), 1993-1995, 1997-2001 (continued)

State	Monthly Pay per FTE
Washington	3,298.03
Michigan	3,306.37
Alaska	3,343.18
Connecticut	3,411.79
Rhode Island	3,634.53
Minimum	1,696.82
25th Percentile	2,246.55
Median	2,535.84
75th Percentile	2,874.05
Maximum	3,634.53

Source: U.S. Census Bureau, Annual Survey of Government Employment

Table B-4

Correlation of Selected Components of FSP Administrative Costs and Public Welfare Pay Rates, 1993-1995, 1997-2001

	Total Cost	Cert	Unsp Oth	Issuance
Public Welfare Pay Rates (All States)	0.400**	0.309***	0.198***	0.170***
Public Welfare Pay Rates (Alaska Omitted)	0.341***	0.254***	0.231***	0.038

* Significant at 10% level ** 5% level *** 1% level

Barriers to Econometric Analysis of FSP Certification Costs

The descriptive analysis of FSP certification costs for this study might have been extended to an econometric analysis to model those costs as a function of caseload characteristics and other factors that shape the workload of FSP agencies. Under this econometric approach, the dependent variable would be the observed certification cost for a state for a year. The principal independent variable would be the number of food stamp cases for that state/year, and the slope coefficient could be interpreted as the marginal cost of certifying a food stamp case. The model would include control variables with respect to caseload composition and program polices, because some types of cases require more effort than do others, and some polices are more demanding of certification worker time than are other policies.

We chose to model error rates as a function of FSP certification effort, caseload characteristics, and policies, rather than attempting to model FSP certification costs, because of several considerations, as discussed below.

Budget Process

State and local agencies allocate resources to FSP administration through a budget process that **largely fixes the total cost in advance for the fiscal year**. The anticipated level of FSP participation may be one factor, but available resources and competing demands for resources are also important. Certification costs represent the largest component of these budgets, and the primary component of certification costs is the payroll of local office workers.

Administrators have some flexibility to reallocate resources during the year, but changes in resources for FSP administration are likely to be relatively modest. There are lags in the processes to acquire or reallocate resources (e.g., hiring and training new staff, transferring existing staff, procuring additional equipment or facilities, etc.). Furthermore, taking resources away from the FSP or any other program can be unpopular with both internal and external constituencies, and managers may be reluctant or unable to make such changes mid-year. Finally, conditions that are likely to create demand for more resources for FSP administration—such as rising unemployment or poverty—place other strains on State budgets.

FSP Certification Cost per Household

The average certification cost per FSP household is essentially the FSP certification budget divided by the size of the caseload. Within the same State, this average may vary widely over time because of exogenous changes in the budget process that have little if anything to do with the intrinsic burden of administering the average food stamp case. Similarly, differences among States in the average certification cost per FSP household in any given year have limitations as a measure of performance, because State FSP agencies have limited control over this measure in the short run.

If the total FSP budget is fixed or can only adjust partially in the short run, the certification cost per household will decline as the caseload rises, and it will rise as the caseload falls. The national trends in FSP certification costs from 1989 to 1993 (adjusted for inflation) followed this predicted pattern: the certification cost per FSP household declined as the number of participating households rose. From 1994 to 2000, the number of FSP households fell, while the certification cost per FSP household increased. The national total certification cost rose throughout this period, providing further evidence in support of the view that total FSP budgets were not closely tied to participation levels during the study period.

FSP Certification Cost and Workload

Furthermore, the output of serving a FSP household is not a standardized product, so the cost per FSP household is not fully comparable across agencies or over time. The optimal amount of certification time (and thus cost) per FSP household is a function of the average workload per FSP household, i.e., the quantity and difficulty of actions required, as determined by FSP rules and the circumstances of the average FSP household. If funds were optimally allocated to match workloads, agencies that perform more frequent or complex certification tasks would be expected to have higher costs per FSP household than others. Thus a model of certification costs would have to adjust for the factors that affect the workload per FSP household, i.e., the economic and demographic conditions, and FSP policies that affect the composition of the caseload and the frequency and ease (or difficulty) of the tasks that must be performed.

On the other hand, if funds are not responsive to workloads, then one would not expect a consistent relationship between the certification cost and the factors that determine the workload. As discussed above, there are both conceptual and empirical reasons for doubting that funding for FSP certification is responsive to the workload, at least in the short run.[6]

Impact of Budget and Workload on Error Rates

As noted in Chapter Five, the outputs of FSP agencies differ in the accuracy of eligibility decisions, i.e., the positive and negative error rates as measured by the quality control (QC) process. Two agencies may perform the same set of services for the same number of households at the same cost, but one agency may perform those services with lower error rates. This agency is more efficient, in the sense that it produces a better output with the same inputs and conditions.

An econometric model of FSP costs might recognize the trade-off between costs and errors by including the error rate as a control variable. As the independent variable (error rates) goes up, the dependent variable (program costs) goes down, holding constant the number of cases, their composition and program policies.

This may seem like a reasonable approach, but estimation of this model poses both logical and statistical problems.[7] As discussed in Chapter Five, there is a relationship between the size of the FSP caseload, the quantity of certification tasks, and the amount of worker time, and the error rates. If the budget for FSP certification is fixed for a given year, then the amount of worker time per FSP household will fall as the caseload rises, and the error rate will rise. Thus, the budget drives the error rate, at least in the short run. For this reason, this study focuses on the combined error rate as the dependent variable and treated the level of certification effort per FSP household as an independent variable.

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[6] The discussion simplifies the processes determining the total FSP cost, because agency budgets include many other programs that share workers and other resources. Because the mix of cases and worker activities among programs is also subject to change after overall budgets are set, the same expectation remains: managers do not adjust the cost per case in response to the workload.

[7] The statistical problem is that the error rate is an endogenous variable when used on the right-hand-side of the regression. Parameter estimates will be biased and inconsistent.